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TRANSMITTAL OF APPEAL BRIEF		Docket No. 09432/168002	
In re Application of: David Llewellyn Mallis			
Application No. 09/843,560-Conf. #9436	Filing Date April 26, 2001	Examiner A. D. Tugbang	Group Art Unit 3729
Invention: TUBULAR JOINT WEAR INDICATOR			

**TO THE COMMISSIONER OF PATENTS:**

Transmitted herewith is the Corrected Appeal Brief in this application, with respect to the Notice of Appeal

filed: October 22, 2004

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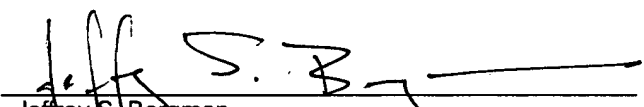
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Dated: July 11, 2005

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Dated: July 11, 2005	Signature:  (Michelle Hayden)



PATENT  
ATTORNEY DOCKET NO.: 09432/168002  
U.S. PATENT APPLICATION SERIAL NO.: 09/843,560

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : David L. MALLIS  
Serial No.: 09/843,560  
Filed : April 26, 2001  
Title : Tubular Joint Wear Indicator

Art Unit : 3729  
Examiner : Anthony D. Tugbang

Assistant Commissioner for Patents  
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**APPELLANT'S BRIEF UNDER 37 C.F.R. § 41.37**

Dear Sir:

Pursuant to 37 C.F.R. § 41.37, please consider the following Appellant's Brief in the referenced Application currently before the Board of Patent Appeals and Interferences.

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## **I. Real Party in Interest**

The real party in interest in the referenced Application is Hydril Company LP (“Hydril”). An Assignment transferring all interest from the inventor to Hydril was filed with the USPTO on March 23, 2005. As of the submission date of this Brief, the reel and frame recordation details have not been received from Assignment Recordation Services.

## **II. Related Appeals and Interferences**

To the best of the knowledge of the Appellant and the Appellant’s legal representative, there are no other appeals or interferences that will directly affect, be affected by, or have a bearing on the decision of the Board of Patent Appeals and Interferences (“the Board”) in this appeal.

## **III. Status of Claims**

The present Application, Serial No. 09/843,560 (“the ‘560 Application”) was filed on April 26, 2001. As filed, the ‘560 Application included claims 1–19, of which claims 1, 10, and 19 were independent claims. Dependant claim 20 was added by amendment on March 3, 2003. Independent claim 21 and dependant claims 22 and 23 were added by amendment on June 24, 2003. Claim 23 was canceled and dependant claim 24 was added by amendment dated February 2, 2004. Claims 1–22 and 24 are presently pending in the ‘560 Application. All pending claims were finally rejected in an Office Action mailed on May 10, 2004. All pending claims 1-22, and 24 were identified for appeal in a Notice of Appeal filed on October 22, 2004.

#### **IV. Status of Amendments**

An amendment after the final Office Action was transmitted on July 12, 2004 along with a request for reconsideration. An Advisory Action dated August 11, 2004 indicates that the amendment was entered. Therefore, all amendments submitted to the Examiner during prosecution have been entered and are reflected in the Claims Appendix.

#### **V. Summary of Claimed Subject Matter**

Independent claim 1 relates to a threaded pipe connection. The threaded pipe connection includes a pin member having external threads increasing in width in one direction and a box member having internal threads increasing in width in an opposite direction, such that the internal and external threads move into engagement upon make-up of the connection. The threaded pipe connection also includes a wear indicator that extending from at least one of a shoulder of the box member and a shoulder of the pin member.

Independent claim 10 relates to a method of manufacturing a connection wear indicator. The method includes providing a pin member having external threads increasing in width in one direction and providing a box member having internal threads increasing in width in an opposite direction, such that the internal and external threads move into engagement upon make-up of the connection. The method also includes providing a wear indicator for the connection extending from at least one of a shoulder of the box member and a shoulder of the pin member.

Independent claim 19 relates to a threaded pipe connection. The threaded pipe connection includes a pin member having external threads increasing in one direction and a box member having internal threads increasing in an opposite direction, such that the internal and

external threads move into engagement upon make-up of the connection. The threaded pipe connection also includes a means for indicating connection wear.

In reference to the means for indicating connection wear in claim 19, the specification discloses several structures to perform the function of indicating connection wear. Particularly, the specification discloses a circumferential extension wear indicator of an external shoulder on a pin member. (Application page 5, ¶ 17). Furthermore, the specification indicates that the wear indicator can have a cross-sectional geometry producing a bearing area that has substantially no resistance to torque at the furthest plane from an external shoulder on a pin member, wherein the bearing area of wear indicator exponentially increases as the plane of the wear indicator gets nearer to external shoulder on pin member. (Application page 5, ¶ 17). Additionally, the specification discloses a wear indicator added to an external shoulder of a box member, such that contact will occur between the wear indicator and the external shoulder of the pin member prior to the connection becoming fully worn out. (Application page 6, ¶ 19). Finally, the specification discloses that in addition to external shoulders of pin and box members, a wear indicator can be added to the internal shoulders of pin and box members. (Application page 6, ¶20).

Independent claim 21 relates to a threaded pipe connection. The threaded pipe connection includes a pin member having external threads increasing in width in one direction and a box member having internal threads increasing in width in an opposite direction, such that the internal and external threads move into engagement upon make-up of the connection. The threaded pipe connection also includes a wear indicator that extends from a shoulder of the connection, wherein connection wear is indicated by contact between the wear indicator and the other of a shoulder of the pin member and the shoulder of the box member.

In reference to all independent claims 1, 10, 19, and 21, Figure 1 of the '560 Application (reproduced below) discloses a male threaded pin connection **10** rotatably engaged within a female threaded box connection **12**. (Application page 2, ¶ 3).

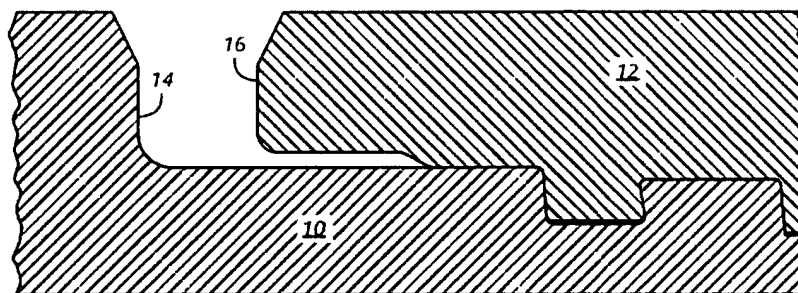


FIG. 1  
(Prior Art)

The “wedge” type threads are constructed such that threads of pin **10** increase in width in one direction and threads of box **12** increase in width in another, opposite, direction. (Application pages 1-2, ¶ 3). As such, when components of the threaded connection are newly manufactured and fully tightened, external shoulder **14** of pin member **10** does not come into contact with external shoulder **16** of box member **12** as shown. (Application page 2, ¶ 3).

Referring now to Figure 2 of the '560 Application (reproduced below), a threaded connection between a male pin member **10** and a female box member **12** is shown wherein the connection is worn beyond allowable limits. (Application page 2, ¶ 3-4). Over time and through numerous make-up and break-out cycles, thread profiles of wedge threads within box **12** and upon pin **10** deform such that external shoulders **14** and **16** meet one another when the connection is made-up. (*Id.*)



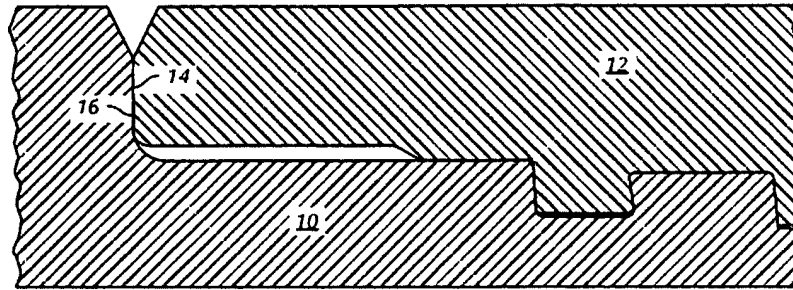


FIG. 2  
(Prior Art)

Once a connection reaches the state shown in Figure 2, it must be replaced or re-machined before it can be relied upon in service. (Application page 2, ¶ 4). Formerly, a function gauge was used to record the amount of standoff between shoulders 14 and 16 when the connection was tightened by hand to indicate the amount of thread wear and deformation. (Application page 2, ¶ 5). However, this method is unreliable in that the amount of standoff between shoulders 14 and 16 when tightened by hand is not necessarily representative of the amount of interference between pin 10 and box 12 when torqued using power equipment. (*Id.*) As such, shoulders 14 and 16 can “gauge” within specifications when hand-tightened off-site, but abut or otherwise be out of specification once tightened to an operating torque on-site. (*Id.*) When shoulders 14 and 16 abut, it is difficult to tell if wedge threads internal to the connection are experiencing enough interference to form a proper pressure seal. (*Id.*) As such, once shoulders 14 and 16 begin to abut one another, components of the connection must be set aside and other components used, resulting in a costly delay to operations. (Application page 2, ¶ 4).

Figures 3 and 4 of the '560 Application (reproduced below) represent an embodiment of a threaded connection in accordance with the invention of the '560 Application that includes a wear indicator to indicate compliance within connection wear specifications. (Application page 5, ¶ 16). Similar to the connections shown in Figures 1 and 2, the connection includes an

externally threaded male pin connection **10** and an internally threaded female box connection **12**. (Application page 5, ¶ 18). However, in Figure 3, a wear indicator **18** projects from external shoulder **14** of pin connection **10**. (Application page 5, ¶ 17). Wear indicator **18** is configured to come into contact with external shoulder **16** when the connection is approaching the end of its useful life and is visible when the connection is made-up. (*Id.*)

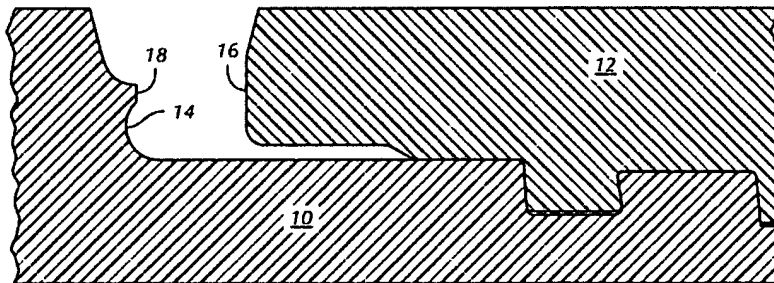


FIG. 3

Referring now to Figure 4, the connection of Figure 3 is shown wherein the threads of pin **10** and box **12** are sufficiently deformed to allow shoulder **16** of box **12** to come into contact with wear indicator **18**. (Application pages 5-6, ¶ 18).

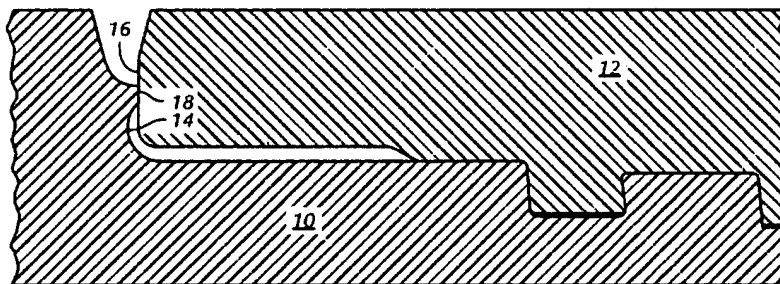


FIG. 4

When shoulder **16** first engages wear indicator **18**, the connection is approaching the limit of its lifespan. (Application page 6, ¶ 18). Over a few additional make-up and break-out cycles, shoulder **16** fully engages wear indicator **18** and the connection is required to be withdrawn from service and remanufactured. (*Id.*) Because shoulder **16** never reaches shoulder **14**, the threaded

connection is removed from service prior to any absolute need for replacement. (Application page 7, ¶ 21).

Figure 5 of the '560 Application (reproduced below) shows an alternative embodiment wherein the wear indicator 18 is located on external shoulder 16 of internally threaded box connector 12. (Application page 6, ¶ 19).

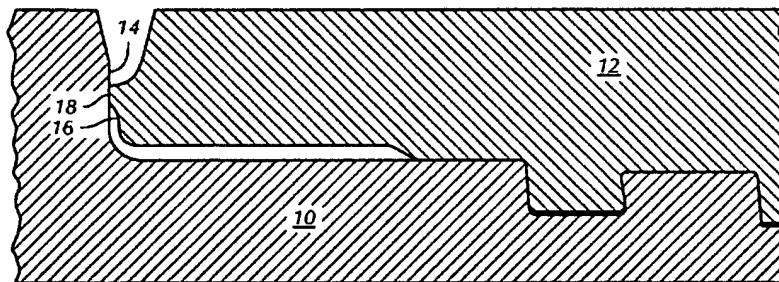


FIG. 5

Wear indicator 18 of Figure 5 is configured to contact external shoulder 14 of externally threaded pin connector 10 when threads of connection between pin 10 and box 12 are sufficiently worn and deformed so as to require replacement. (*Id.*)

## VI. Grounds of Rejection to be Reviewed on Appeal

The sole ground of rejection to be reviewed is the rejection of Claims 1–22, and 24 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,438,953 (“Timme”).

## VII. Argument

In this appeal, the Applicant argues independent claims 1, 10, and 19 are patentable over Timme for the reasons stated below. Dependant claims 2-9, 11-18, and 20 are patentable for at least the same reasons. In addition, the Applicant argues independent claim 21 is separately patentable over Timme. Dependant claims 22 and 24 are patentable for at least the

same reasons. Thus, for purposes of this appeal, claims 1-20 stand or fall together, and claims 21, 22, and 24 stand or fall together.

Under 35 U.S.C. §102(b), a claim in a patent application may be rejected if it is patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. 35 U.S.C. § 102(b). Furthermore:

“Anticipation under 35 U.S.C. § 102 means lack of novelty, and is a question of fact. To anticipate, *every* element and limitation of the claimed invention *must* be found in a *single* prior art reference, arranged as in the claim.”

*Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001) (emphasis added). The Federal Circuit has held repeatedly that anticipation requires disclosure of each and every element of the claimed invention in a single prior art reference. *See, e.g., Schering Corp. v. Geneva Pharms.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677 (Fed. Cir. 1988); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1574 (Fed. Cir. 1986). Appellant respectfully asserts the Timme patent does not disclose each and every element of the invention as claimed in claims 1-22 and 24.

***A. The Pin and Box Member Limitations of Claims 1-22, and 24***

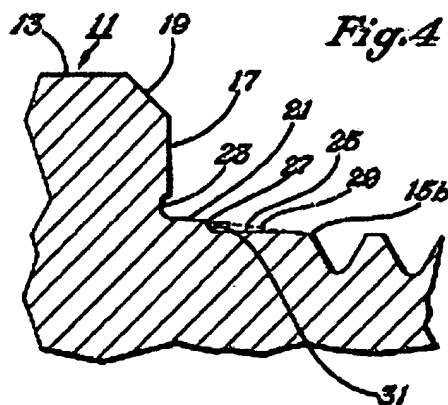
Timme does not disclose the limitations relating to the pin and box members recited in each claim of the ‘560 Application. Particularly, all claims (1-22 and 24) require a pin member having external threads increasing in width in one direction. Furthermore, all claims require a box member having internal threads increasing in width in an opposite direction. In the art of threaded tubulars, particularly in tubulars used in oilfield applications, such a thread configuration is known as a “wedge thread.” The Timme patent does not disclose or suggest

threads increasing in width in any direction. Instead, the Timme patent discloses threads that are tapered (*i.e.*, those having a frusta-conical shape along their length). (Timme column 2, lines 19-21). As such, the Timme patent discloses threads increasing or decreasing in *diameter* and does not disclose or suggest threads increasing in *width* as required by each claim 1-22 and 24.

As the Timme patent does not disclose each and every element recited in claims 1-22 and 24 of the '560 Application, it is not a proper anticipating reference under 35 U.S.C. § 102(b). *See Brown*, 265 F.3d at 1351. Therefore, Appellant respectfully requests reversal of the rejection of claims 1-22 and 24 under 35 U.S.C. §102(b).

***B. The Wear Indicator Limitations of Claims 1-22, and 24***

Timme also does not disclose limitations relating to the wear indicator as required in all claims 1-22 and 24. Particularly, every claim of the '560 Application requires a wear indicator extending either from a shoulder of a box member or a shoulder of a pin member. The Timme reference does not disclose or suggest such elements. Instead, the disclosure of Timme is directed to a bench mark formed in a tool joint (*i.e.* a male or female half of a threaded connection) between the threads and the make-up shoulder. (Timme Abstract, lines 4-6). Figure 4 of the Timme patent is reproduced below:



The bench mark 27 of the Timme patent is located between a threaded region 15b and a make up shoulder 17. The purpose of bench mark 27 is to provide a reference point from which the distance to shoulder 17 can be measured. (Timme column 2, lines 55-66). When new, bench mark 27 is preferably machined 1/8" from makeup shoulder 17 and any deviation over time therefrom is indicative of tool joint deformation. (*Id.*) If such deformation exceeds a specified tolerance, the tool joint must be removed from service as it is no longer suitable for continued use. (*Id.*) The bench mark of Timme is neither visible nor capable of being used once the tool joint is made-up (i.e. connected) with a corresponding device and is therefore not useful in indicating the status of a made-up connection.

As such, the disclosure of Timme does not disclose or suggest a wear indicator extending from either a shoulder of a box member or a shoulder of the pin member. Referring to claims 1-22 and 24 of the '560 Application, the bench mark of Timme does not extend from a shoulder of a box member or a pin member. Therefore, Appellant respectfully asserts the Timme patent does not disclose each and every element recited in claims 1-22 and 24 of the '560 Application and as such, it is not a proper anticipating reference under 35 U.S.C. §102(b). *See Brown*, 265 F.3d at 1351.

#### The Examiner's Arguments are not Persuasive

The Examiner was not persuaded by Appellant's assertion that the Timme patent does not disclose each and every element of claims 1-22 and 24 and responded with arguments to the contrary. Particularly, in paragraph 5 of the Final Office Action dated May 10, 2004 (and in the previous, non-final Office Action dated November 19, 2003), the Examiner rejected all claims by alleging that "a wear indicator that extends from a shoulder (recess 23 and bevel 19) of the pin

member 11” is disclosed in Figure 4 of the Timme patent. Next, in paragraph 6 of the Final Office Action, the Examiner proposed the “wear indicator” disclosed in Figure 4 of the Timme patent is the end or edge surface area of element 17 and the “shoulder” is the cross-hatched region of the pin member to the left of beveled edge 19. Thus, the Examiner took the position that the edge surface area of element 17 projects from a shoulder comprised of recess 23 and beveled edge 19 formed on either side of element 17. As such, the Examiner’s argument is premised upon beveled edge 19 and recess 23 being a “shoulder” and that edge surface area of element 17 is a “wear indicator.” Appellant respectfully disagrees with this interpretation of the Timme disclosure and offers the following evidence in support.

Terminology used in the Timme Patent Contradicts the Examiner’s Position

First, contrary to the Examiner’s Position, the Timme patent consistently and unequivocally refers to item 17 as a “make-up shoulder.” Specifically, from column 2, line 22 to column 3, line 38 of the specification, the Timme patent identifies item 17 ten times as a “make-up shoulder” in reference to Figures 2 and 4 depicting pin connections. So thorough and consistent is this identification, that no recitation of item 17 can be found in the specification without being concurrently identified as a make-up “shoulder.” Furthermore, in reference to Figures 3 and 5 depicting box connections, item 39 is used consistently to identify the same structure as a “make-up shoulder.” (Timme column 3, lines 1-39). Finally, in describing a prior art pin connection in Figure 1, the specification of the Timme patent recites item 65 to indicate the same structure yet again as a “make-up shoulder.” (Timme column 3, line 48). Therefore, the Examiner’s position that item 17 is not a shoulder, but instead an extension from a shoulder

created by beveled edge **19** and recess **23**, runs squarely counter to the disclosure of the Timme patent.

Second, the Timme patent identifies item **19** as a “bevel” formed between make-up shoulder **17** and cylindrical surface **13** (i.e. the outer profile of the threaded connection). (Timme column 2, lines 26-28). As disclosed in the Timme patent, bevel **19** is not a shoulder, but instead a transitory feature located *between* a shoulder (e.g. **17**) and a cylindrical surface (e.g. **13**). (*Id.*) Therefore, the Examiner’s position that bevel **19** is a shoulder (or a component of a shoulder) is not supported by the disclosure of the Timme patent.

Third, the Timme patent identifies item **23** as an “annular groove or recess... to avoid a sharp intersection and to provide a make-up shoulder that can be redressed.” (Timme column 2, lines 36-40). As disclosed, annular groove **23** is not a shoulder, but instead a feature to prevent a sharp intersection with and to provide access to a shoulder (e.g. **17**). (*Id.*) Presumably, the purpose of annular groove **23** is to reduce the amount of stress concentration at an interface *between* shoulder **17** and threads **15b** and to provide access to shoulder **17** so that it may be reworked or redressed. Therefore, the Examiner’s position that annular groove **23** is a shoulder (or a component of a shoulder) is not supported by the disclosure of the Timme patent.

As they are not supported by the disclosure of the cited Timme reference, Appellant respectfully requests that the Board reject the Examiner’s interpretation and characterization of the Timme disclosure. Therefore, because the Timme patent does not disclose each and every element recited in claims 1-22 and 24 of the ‘560 Application, it is not a proper anticipating reference under 35 U.S.C. §102(b). *See Brown*, 265 F.3d at 1351.



Expert Testimony Contradicts the Examiner's Position

Finally, the Appellant submitted a Declaration of Robert S. Sivley, IV (attached hereto as Appendix B) under 37 C.F.R. §1.132 with a response after the Final Office Action. In the Affidavit, Sivley identified himself as one of ordinary skill in the art in that he has worked in the field of threaded connections since 1996 and holds a Texas Professional Engineer's license. (Sivley Affidavit, ¶¶ 2-3). Sivley's testimony is that the *only* shoulder shown in Figure 4 of the Timme patent is that identified by item 17 and that the bevel 18 and recess 23 are not shoulders. (Sivley Affidavit, ¶ 8). It is Mr. Sivley's testimony as one of ordinary skill in the art that the Timme patent does not disclose a wear indicator extending from a shoulder as recited in claims of the '560 Application. (*Id.*)

The Federal Circuit has held that an element of a claim is inherently disclosed in a prior art reference when a person of ordinary skill in the art would recognize its presence. *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1995). In the present matter, a person of such ordinary (or greater) skill in the art has given testimony that the element of a wear indicator is not present in the reference. As no evidence to contradict the Sivley Affidavit has been proffered, Appellant respectfully submits the Examiner's position regarding the existence in the Timme patent of a wear indicator extending from a shoulder of a box member or a shoulder of a pin member is untenable. Because the Timme patent does not disclose each and every element recited in claims 1-22 and 24 of the '560 Application, those claims should be allowed. *See Brown*, 265 F.3d at 1351.

***C. The Contact Limitations of Claims 21, 22, and 24***

Timme does not disclose or suggest contact limitations relating to the wear indicator as required in Group II claims 21, 22, and 24 (but not required in Group I claims 1-20). Particularly, claims 21 and 22 require a wear indicator to indicate connection wear by “contact between the wear indicator and the other of the shoulder of the pin member and the shoulder of the box member.” (Application claim 21, lines 6-8). Therefore, under claim 21 (and dependant claim 22), it logically follows that there should be no contact between the wear indicator and the shoulder of an adjacent shoulder of a pin or a box member when the connection is not worn. As such, in a new pin-box connection, there should be no contact between the wear indicator and the adjacent shoulder. Similarly, claim 24 requires “the wear indicator does not contact the other of the group consisting of the shoulder of the box member and the shoulder of the pin member, when the connection is first connected” (i.e. when the connection is new and not worn). (Application claim 24, lines 1-3; *See also* Application pages 1-2, ¶ 3). As with claims 21 and 22 above, claim 24 requires that there be no contact between the wear indicator and an adjacent shoulder when the connection is new and not worn. Appellant respectfully asserts that as Timme patent does not disclose or suggest these requirements as claimed, rejection of claims 21, 22, and 24 under 35 U.S.C. §102 is improper. *See Brown*, 265 F.3d at 1351.

As mentioned above in reference to the wear indicator limitations, the Timme patent describes item 17 consistently as a “make-up shoulder.” In the Background of the Invention, the Timme patent states:

[a] make-up shoulder is spaced a selected distance from the gage point of the threads on the pin.

Another make-up shoulder is located at the outer end of the box. When fully made-up, these make-up shoulders contact each other under a selected amount of compression to provide a fluid tight seal.

(Timme column 1, lines 14-20). The tool joints disclosed in Timme are rotary “API” tapered threaded connections wherein adjacent shoulders of pin and box components meet in compression upon make-up, *i.e.*, connection, of the tool joint to form a hydraulic seal therebetween. (*Id.*) As such, the faces of make-up shoulders 17, 39, and 65 are necessarily smooth, uniform, and without obstructions in order to facilitate seal integrity. (Timme column 1, lines 25-26).

In contrast, the threaded connections claimed the ‘560 Application rely on the wedge thread profiles upon and within the pin and box members to establish a fluid tight seal therebetween. (Application page 2, ¶ 4). As such, the threaded connections of the ‘560 Application are constructed such that the shoulders thereof do *not* contact one another absent excessive wear in the connections. (Application pages 1-2, ¶ 3). Therefore, the Examiner’s characterization of item 17 of the Timme patent as a wear indicator projecting from a shoulder created by bevel 19 and recess 23 would not be capable of anticipating claims 21, 22, and 24 even if such characterization were deemed valid. The meeting of item 17 with shoulder 39 of Figures 3 and 5 every time a connection is made up is contrary to the limitations of claims 21, 22, and 24. Because each and every limitation of claims 21, 22, and 24 is not disclosed in the Timme patent, anticipation thereby under 35 U.S.C. §102 is improper. *See Brown*, 265 F.3d at 1351. As such, the Appellant respectfully requests the Board reverse the Examiner’s rejection and allow claims 21, 22, and 23.

***D. Lack of Obviousness of Claims 1-22, and 24***

While no rejection under 35 U.S.C. §103 currently stands before the Board, in the interest of expediting prosecution of the pending claims, Appellant takes this opportunity to note that the claims of the '560 Application are also not obvious in view of the Timme patent. The heart of the statutory test of obviousness is found in the first sentence of 35 U.S.C. § 103, which denies patentability:

[I]f the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

A conclusion of obviousness may be established on the basis of one or more prior art references. Before a conclusion of obviousness may be made based on a combination of references, however, there must have been a reason, suggestion, or motivation to combine the teachings of those references. *See ACS Hosp. Sys. Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). The suggestion may come from the nature of a problem to be solved, leading inventors to look to references relating to possible solutions for that problem. *See, e.g., In re Rinehart*, 531 F.2d 1048, 1054 (C.C.P.A. 1976).

In the present case, the Timme patent not only does not teach, but actually teaches away from the invention as claimed. Particularly, with regard to the wear indicator required in every claim of the '560 Application, the Timme patent teaches a bench mark to be made on portions of the pin and box connections that are not visible upon make-up of the components in the field. As such, the Timme patent does not teach a wear indicator useful in determining the state of the connection when it is assembled and torqued. The wear indicator of the '560

Application is premised upon identifying the wear state of tubulars in a connected state.  
(Application pages 5-6, ¶ 18).

Moreover, the Timme patent teaches away from the invention as claimed in the '560 Application. As mentioned above in reference to the contact limitations of claims 21, 22, and 24, the Timme patent teaches threaded connection systems whereby shoulders of adjacent pin and box members *must* meet in compression to create a fluid tight seal therebetween. (Timme column 1, lines 14-20). In contrast, the wear indicators of the '560 application are premised upon types of connections whereby shoulders of adjacent pin and box members do not meet unless worn. (Application pages 1-2, ¶ 3). As a result, the disclosure of the Timme patent teaches away from the invention as disclosed and claimed in the '560 Application and a rejection under 35 U.S.C. 103(a) by Timme would be improper. *See In re Bell*, 991 F.2d 781, 784 (Fed. Cir 1993).

### **VIII. Conclusion**

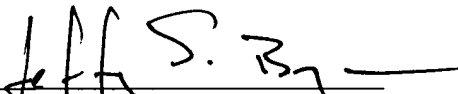
For the reasons presented above, claims 1-20 of the '560 Application are patentable over the cited art as Timme does not disclose all of the limitations recited therein. *See Brown*, 265 F.3d at 1351. Furthermore, claims 21, 22, and 24 of the '560 Application are patentable over the cited art as Timme does not disclose all of the limitations recited therein. (*See id.*) Therefore, the Appellant respectfully requests that the Board reverse the Examiner's rejections and allow all pending claims 1-22, and 24 of the '560 Application.

Please apply any charges not covered, or any credits, to Deposit Account 50-0591

(Reference No. 09432/168002).

Date: 7/11/05

Respectfully submitted,

By 

Jeffrey S. Bergman

Registration No.: 45,925

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## **Claims Appendix**

### **Claims of Record in the Application**

1. A threaded pipe connection comprising:  
a pin member having external threads increasing in width in one direction;  
a box member having internal threads increasing in width in an opposite direction so that  
the internal threads and the external threads move into engagement upon make-up of  
the connection; and  
a wear indicator that extends from at least one of the group consisting of a shoulder of the  
box member and a shoulder of the pin member.
2. The threaded pipe connection of claim 1 wherein the wear indicator is disposed on the  
pin member.
3. The threaded pipe connection of claim 1 wherein the wear indicator is disposed on the  
box member.
4. The threaded pipe connection of claim 1 wherein the shoulder of the pin member  
comprises an external shoulder of the pin member and the wear indicator is disposed on the  
external shoulder of the pin member.
5. The threaded pipe connection of claim 1 wherein the shoulder of the box member  
comprises an external shoulder of the box member and the wear indicator is disposed on the  
external shoulder of the box member.
6. The threaded pipe connection of claim 1 wherein the shoulder of the pin member  
comprises an internal shoulder of the pin member and the wear indicator is disposed on the  
internal shoulder of the pin member.
7. The threaded pipe connection of claim 1 wherein the shoulder of the box member  
comprises an internal shoulder of the box member and the wear indicator is disposed on the  
internal shoulder of the box member.

8. The threaded connection of claim 1 wherein:  
the pin member has an external shoulder;  
the box member has an external shoulder; and  
the wear indicator extends from the external shoulder of the pin member and the external shoulder of the box member.
9. The threaded connection of claim 1 wherein:  
the pin member has an internal shoulder;  
the box member has an internal shoulder; and  
the wear indicator extends from the internal shoulder of the pin member and the internal shoulder of the box member.
10. A method of manufacturing a connection wear indicator, comprising:  
providing a pin member having external threads increasing in width in one direction;  
providing a box member having internal threads increasing in width in an opposite direction so that the internal threads and the external threads move into engagement upon make-up of the connection; and  
providing a wear indicator for the connection that extends from at least one of the group consisting of a shoulder of the box member and a shoulder of the pin member.
11. The method of claim 10 further comprising:  
disposing the wear indicator on the pin member.
12. The method of claim 10 further comprising:  
disposing the wear indicator on the box member.
13. The method of claim 10 wherein the shoulder of the pin member comprises an external shoulder of the pin member, the method further comprising:  
disposing the wear indicator on the external shoulder of the pin member.
14. The method of claim 10 wherein the shoulder of the box member comprises an external shoulder of the box member, the method further comprising:  
disposing the wear indicator on the external shoulder of the box member.



15. The method of claim 10 wherein the shoulder of the pin member comprises an internal shoulder of the pin member, the method further comprising:  
disposing the wear indicator on the internal shoulder of the pin member.
16. The method of claim 10 wherein the shoulder of the box member comprises an internal shoulder of the box member, the method further comprising:  
disposing the wear indicator on the internal shoulder of the box member.
17. The method of claim 10 wherein the shoulder of the box member comprises an external shoulder of the box member and the shoulder of the pin member comprises an external shoulder of the pin member, the method further comprising:  
disposing the wear indicator on at least one of the external shoulder of the pin member  
and the external shoulder of the box member.
18. The method of claim 10 wherein the shoulder of the box member comprises an internal shoulder of the box member and the shoulder of the pin member comprises an internal shoulder of the pin member, the method further comprising:  
disposing the wear indicator on at least one of the internal shoulder of the pin member  
and the internal shoulder of the box member.
19. A threaded pipe connection comprising:  
a pin member having external threads increasing in one direction;  
a box member having internal threads increasing in an opposite direction so that the  
internal threads and the external threads move into engagement upon make-up of the  
connection; and  
means for indicating connection wear.
20. The threaded pipe connection of claim 1, wherein wear indicator comprises a circumferential extension.

21. A threaded pipe connection comprising:  
a pin member having external threads increasing in width in one direction;  
a box member having internal threads increasing in width in an opposite direction so that  
the internal threads and the external threads move into engagement upon make-up of  
the connection; and  
a wear indicator that extends from a shoulder of the connection, wherein connection wear  
is indicated by contact between the wear indicator and the other of the shoulder of the  
pin member and the shoulder of the box member.
22. The threaded pipe connection of claim 21, wherein the wear indicator extends from at  
least one of the group consisting of a shoulder of the box member and a shoulder of the pin  
member.
23. Cancelled
24. The threaded pipe connection of claim 1, wherein the wear indicator does not contact the  
other of the group consisting of the shoulder of the box member and the shoulder of the pin  
member, when the connection is first connected.



## Evidence Appendix

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David L. Mallis  
Serial No.: 09/843,560  
Filed : April 26, 2001  
Title : TUBULAR JOINT WEAR INDICATOR

Art Unit : 3729  
Examiner : D. Tugbang

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

#### Declaration of Robert S. Sivley, IV Under 37 CFR § 1.132

I, Robert S. Sivley, IV, hereby declare that:

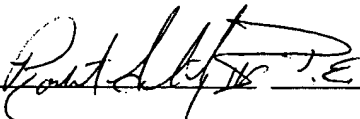
1. I received a Bachelor's Degree in Mechanical Engineering from the Cullen College of Engineering at the University of Houston in 1996.
2. I have worked in the field of Mechanical Engineering for seven years. Since 1996, I have been involved in the design and development of threaded connections.
3. I am licensed to practice mechanical Engineering in the state of Texas. My license number is 92958. It expires on 09/30/2004.
4. I am familiar with the above referenced patent application, and have reviewed the Examiner's rejections.
5. I am currently employed by Hydril Company, Inc.
6. I am not an inventor of the invention that is the subject of the present application.
7. A "shoulder," as the term is used in the art of threaded connections, refers to a device that prevents further relative rotation between two threaded members when the members are made up. One example of a shoulder is a positive stop shoulder, which is where a shoulder element on the pin member comes into contact with a shoulder element on the

box member. The contact between the shoulder elements prevents any further relative rotation between the two members. Another type of shoulder is a thread shoulder, where contact between the flanks of the threads prevents further relative rotation of the members. Any part of a threaded connection that does not prevent further relative rotation between the members is not a shoulder, as that term is used in the art.

8. As I understand the rejection, the Examiner considers element 17 in FIG. 4 of U.S. Patent No. 4,438,953 ("Timme") to be a wear indicator and surfaces 19 and 23 to be a shoulder. In my opinion, the only shoulder shown in FIG. 4 of Timme is shown at element 17. The surfaces 19, 23 shown in FIG. 4 of Timme are not shoulders because they do not prevent relative axial movement between the members of the threaded connection. Thus, Timme does not show a wear indicator that extends from a shoulder, as recited by the claims in the present application.

I further declare that all statements made herein of my own knowledge are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Date:  07/23/07

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**Related Proceedings Appendix**

Not applicable to the present appeal